

### **REMARKS**

Claims 1-67 are pending in the application.

Claims 1-67 have been rejected.

Claim 17 has been amended. No new matter has been added.

#### **Rejection of Claims under 35 U.S.C. §112**

Claim 17 is rejected under 35 U.S.C. §112 for having improper antecedent basis. Claim 17 has been amended, and thus this rejection is believed to have been overcome.

#### **Claim Objections**

Claim 9 is objected to for allegedly failing to further limit the subject matter of a previous claim. Office Action, p. 2. However, Applicants respectfully submit that claim 9 does indeed further limit the subject matter of the previous claim. In particular, independent claim 8 is directed to a system that includes a first virtual network device sub-unit. Claim 8 describes how an interface from the first virtual network device sub-unit is configured to be bundled with an interface in a second virtual network device sub-unit, but does not require that the second virtual network device sub-unit be present as part of the system. Claim 9 then limits the subject matter of claim 8 by explicitly requiring that the second virtual network device sub-unit be part of the system described in claim 8. Since claim 9 is thus a proper dependent claim, Applicants respectfully request the withdrawal of this objection.

#### **Rejection of Claims under 35 U.S.C. §102(b)**

Claims 1-20, 22-31, 33-38, 40-48, 50-58, and 60-67 stand rejected under 35 U.S.C. §102(b) as being anticipated by Beck et al. (USPPN 2001/0014097) ("Beck"). Applicants respectfully traverse this rejection.

With respect to claim 1, the cited art fails to teach or suggest a virtual link bundle that includes communication links that are configured to be coupled to a sub-unit of a virtual network device on one end and a network device on the other. In particular, the Examiner relies upon the processor nodes of Beck to anticipate the virtual network device sub-units of claim 1. However, Beck's processor nodes are clearly not network devices that are able to operate as virtual network device sub-units of a virtual network device. Furthermore, the cluster that includes Beck's processor nodes is clearly not a virtual

network device, further indicating that that Beck's processor nodes are not virtual network device sub-units. For at least this reason, claim 1 is patentable over the cited art.

Further with respect to claim 4, the cited art fails to teach or suggest a network device that is configured to append a header, which identifies the port of that network device that received a particular packet, to that packet before sending the packet to a virtual network device. The Examiner cites paragraphs 9 and 40 of Beck as teaching this feature, however, these paragraphs merely describe how receiving applications can listen to particular software ports (paragraph 49) and how a processor node can modify a packet header to identify the network address of another processor node (paragraph 9) in order to be able to transfer that packet to the other processor node. Nothing in either paragraph teaches or suggests appending a packet header to a packet to identify a port that received the packet, prior to sending that packet to another device (e.g., Beck does not teach or suggest a receiving application appending a packet header to indicate the software port on which a particular packet was received, nor does Beck teach or suggest a processor node appending a packet header to identify the port via which the packet was received by that processing node, prior to transferring the packet to another processing node). At best, Beck simply describes modifying a packet header to indicate a new destination to which the packet should be sent, not appending a packet header to a packet to indicate the interface that received the packet.

With respect to claim 8, the cited art fails to teach or suggest a first interface, which is part of a first virtual network device sub-unit, and a second interface, which is part of a second virtual network device sub-unit, which are both assigned the same logical identifier (the "first logical identifier" of claim 8). The Examiner states that "Interfaces are associated with an IP address," but does not describe how the same IP address (or other logical identifier) is used to identify interfaces in different processor nodes. Furthermore, nothing in the cited portion of Beck's appears to teach or suggest associating the same IP address with multiple interfaces, let alone using the same logical identifier to identify multiple interfaces.

While paragraph 27 of Beck does note that a single network layer address can be associated with the cluster and the processing nodes within the cluster, Beck does not teach or suggest using that network layer address to identify interfaces in the manner recited in claim 8 (in other words, associating a network address with a cluster and/or node does not teach or suggest using a logical identifier to identify a particular interface).

Additionally, as noted above, Beck's processor nodes are not virtual network device sub-units. Beck also does not teach or suggest using logical identifiers to identify interfaces of such virtual network device sub-units. For at least these reasons, claim 8 is patentable over the cited art.

Further with respect to claim 11, the cited art fails to teach or suggest a controller that is part of a virtual network device sub-unit and configured to perform control processing for a first interface (which is included in the same interface bundle as an interface in another network device sub-unit) according to a routing protocol running on the interface bundle. As noted above, Beck fails to teach or suggest a virtual network device sub-unit. The processor nodes in Beck, which are equated with the virtual network device sub-units, are not configured to perform control processing for anything (let alone an interface) according to a routing protocol. The Examiner cites paragraph 76 of Beck as teaching this feature; however, this paragraph merely describes how a processor node can establish a database that shows which node is using which network layer address. Nothing in Beck teaches or suggests that the generation of this database is performed "according to a routing protocol." Furthermore, given that Beck's processor nodes are not network devices, the processor nodes would not be expected to perform control processing according to a routing protocol. For at least these reasons, claim 11 is further patentable over the cited art.

With respect to claim 41, the cited art fails to teach or suggest filtering a packet from a packet flow being sent via the first interface if the packet was received via a virtual network device link. The Examiner cites paragraph 9 of Beck as teaching this feature, characterizing the cited portion of Beck as teaching "When a receiving node determines which processor node to send to, it broadcasts the data packet over the network for delivery to the processor node." Office Action, p. 17. Applicants respectfully submit that the act of broadcasting clearly neither teaches nor suggests "filtering" a packet from a packet flow being sent via a particular interface. Instead, "broadcasting" suggests sending one or more copies of the packet, via all available interfaces. Furthermore, nothing in the Office Action or the cited paragraph of Beck teaches or suggests performing the act of filtering in response to a packet being received via a virtual network device link (in fact, no portion of Beck has been cited as teaching such a link). For at least these reasons, claim 41 is patentable over the cited art.

Claims 2-7, 9-20, 22-31, 33-38, 40, 42-48, 50-58, and 60-67 are patentable over the cited art for reasons similar to those provided above with respect to independent claims 1, 8, and 41.

*Rejection of Claims under 35 U.S.C. §103(a)*

Claims 21, 32, 39, 49 and 59 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Beck in view of Mankude et al. (USPN 6,735,205) ("Mankude"). Applicants respectfully traverse this rejection for the reasons similar to those set forth above with respect to independent claims 1, 8, and 41.

**CONCLUSION**

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance without any further examination and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephone interview, the Examiner is invited to telephone the undersigned at 512-439-5087.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicant hereby petitions for such extensions. Applicant also hereby authorizes that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to deposit account 502306.

Respectfully submitted,



Brenna A. Brock  
Attorney for Applicants  
Reg. No. 48,509  
Telephone: (512) 439-5087  
Facsimile: (512) 439-5099